

## CLAIMS

1. A receiver for receiving a data signal from a reference transmitter and a non-reference transmitter, wherein the reference transmitter covers the transmitted data signal using a reference cover and the non-reference transmitter covers the transmitted data signal using a non-reference cover, the receiver comprising:

6       at least one antenna, for receiving the data signal;  
for each of said at least one antenna, a sampler for sampling the data signal received through the corresponding antenna and producing received samples;

10      a recorrelator for recorrelating said received samples using the non-reference cover and the reference cover to produce recorrelated samples; and

12      a cover equalizer for performing cover equalization using said received samples and said recorrelated samples.

2. A method for receiving a data signal from a reference transmitter and a non-reference transmitter, wherein the reference transmitter covers the transmitted data signal using a reference cover and the non-reference transmitter covers the transmitted data signal using a non-reference cover, the method comprising:

6       receiving the data signal through at least one antenna;  
sampling the data signal received through each of said at least one antenna to produce received samples;

8       recorrelating said received samples using the non-reference cover and the reference cover to produce recorrelated samples; and

10      performing cover equalization using said received samples and said recorrelated samples.

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3. A computer readable media embodying a method for receiving a data signal from a reference transmitter and a non-reference transmitter, wherein the reference transmitter covers the transmitted data signal using a reference cover

- 4 and the non-reference transmitter covers the transmitted data signal using a non-reference cover, the method comprising:
  - 6 receiving the data signal through at least one antenna;
  - 8 sampling the data signal received through each of said at least one antenna to produce received samples;
  - 10 recorrelating said received samples using the non-reference cover and the reference cover to produce recorrelated samples; and
  - 12 performing cover equalization using said received samples and said recorrelated samples.

4. A remote station apparatus comprising:
  - 2 means for receiving the data signal through at least one antenna;
  - 4 means for sampling the data signal received through each of said at least one antenna to produce received samples;
  - 6 means for recorrelating said received samples using the non-reference cover and the reference cover to produce recorrelated samples; and
  - 8 means for performing cover equalization using said received samples and said recorrelated samples.

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